

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 4-16 and 18-34 are in this application. Claims 4-16 and 18-24 have been allowed. Claims 1-3 and 17 have been cancelled. Claims 25-34 have added to additionally and alternately claim the present invention.

Applicant notes that the assignee, National Semiconductor Corporation, has been contacted by Foveon Inc. (www.foveon.com), which has stated that an employee of Foveon is a co-inventor of certain claims of the application as filed. Assignee National Semiconductor Corporation is considering Foveon's position.

In the office action mailed February 24, 2004, the Examiner rejected claims 1 and 17 under 35 U.S.C. §102(b) as being anticipated by Ingram et al. (U.S. Patent No. 5,562,781), and claims 1-9 and 17-19 under 35 U.S.C. §102(e) as being anticipated by Hopper et al. (U.S. Patent No. 6,646,318).

New claim 25 recites:

"a first region of the semiconductor material, the first region contacting a top surface of the semiconductor material, being a first conductivity type, and having a layer that includes silicon germanium; and

"a second region of the semiconductor material located below the first region, the second region contacting the first region and being a second conductivity type."

With respect to the Ingram reference, applicant has been unable to find anything in Ingram that teaches or suggests the use of germanium. With respect to the Hopper reference, applicant notes that n+ region 242 shown in FIG. 2 of Hopper can not be read to be the first region of claim 25 because n+ region 242 appears to be missing the layer of silicon germanium required by the first region of claim 25. (See column 6, lines 19-20, of Hopper.)

Thus, claim 25 is not anticipated by either the Ingram or Hopper references. In addition, since claims 26-34 depend either directly or indirectly from claim 25, claims 26-34 are not anticipated by Ingram or Hopper for the same reasons that claim 25 is not anticipated.

Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Respectfully submitted,

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